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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,770	01/23/2002	Shigeo Fujimori	1023-02	8726

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IP GROUP OF DLA PIPER RUDNICK GRAY CARY US LLP
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EXAMINER

LIN, JAMES

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/055,770	Applicant(s) FUJIMORI ET AL.	
	Examiner Jimmy Lin	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/16/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/03/2006 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 11-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 11 recites the limitation "said alignment marks" in (a-4). There is insufficient antecedent basis for this limitation in the claim.

The claim recites, "said alignment marks are formed on the base plate" (a-4). The only alignment marks mentioned beforehand are those of each deposition mask (a, a-1), as opposed to alignment marks on the base plate.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clark (6,749,690) in view of Shigeo et al. (JP 2000-113978).

Clark teaches a method of manufacturing an organic EL device (abstract) comprising:

positioning an integrated mask 12 and a single substrate to be subjected to a deposition process in a deposition chamber (column 1, lines 19-21) using alignment marks formed on said integrated mask and said single substrate (column 3, lines 18-25);

the integrated mask 12 comprising a plurality of deposition masks 12a-12d having an array of deposition apertures formed in accordance with a deposition pattern and alignment marks 23,29;

a plurality of engaging units 25,32 provided on said base plate that engage and disengage each of said deposition masks (column 4, lines 3-10) such that the position of each deposition mask is adjusted relative to the base plate 22 independently of the other deposition masks (column 3, lines 18-21);

the base plate having a plurality of openings 24a-24d on which deposition masks are arranged, each of said deposition masks being arranged over a separate opening (Fig. 1);

alignment marks 19 formed on said base plate;

detecting said alignment marks of said base plate (column 3, lines 18-21) and each of said deposition masks (column 3 line 66-column 4 line 3);

adjusting the relative position between said base plate and each of said deposition masks prior to engaging the integrated mask with the substrate by independently retaining (column 4, lines 3-10) and independently moving each of said deposition masks relative to said base plate (column 3, lines 18-21);

retaining each of said deposition masks on said base plate using said engaging units (column 4, lines 3-10) after adjusting of said relative position (column 3, lines 18-21); .

Clark does not teach forming n organic EL devices on said single substrate wherein n is an integer equal or greater than 2. However, Shigeo teaches a method of manufacturing an organic EL element, wherein n shadow masks are arranged for one board and the board is cut into multiple sub-boards. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have formed multiple organic EL devices using the integrated mask of Clark. One would have been motivated to do so in order to improve productivity of an element and reduce the costs (abstract).

Claim 12: In the case in Fig. 1 of Clark, m is 4.

Claim 14: Clark teaches the deposition of an organic light-emitting layer using the integrated mask (abstract).

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clark (6,749,690) in view of Shigeo et al. (JP 2000-113978) as applied to claim 12 above, and further in view of Nagayama et al. (5,701,055).

Clark and Shigeo are discussed above, but do not explicitly teach the use of m masks to deposit n organic EL devices where n is an integer (greater than 1) multiple of m . However, it is well known in the art of EL devices to use masks to produce repeating patterns of pixels. For example, Nagayama teaches moving a deposition mask to produce red, blue, and green pixels (See Figs. 8A-8C and column 8, line 41-column 9, line 19) in a repeating matrix (See Figs. 1-2; col. 6, lines 17-30). (Nagayama does not by itself teach that the pixels are individual EL devices because the pixels occur at the crossing of a plurality of perpendicular anode 3 and cathode 9 stripes.) Taking the references as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have deposited the matrix of red, blue, and green pixels as individual EL device each with its own anode, EL layer(s), and cathode because Shigeo teaches the benefits of depositing multiple EL devices on the same

substrate. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have re-used the m masks of Clark to have produced the pixels of the three colors by moving the masks between depositions of the colors because Nagayama teaches that such is a suitable method of depositing red, blue, and green pixels, thereby resulting in $(n=3*m)$ pixel EL devices.

Response to Arguments

9. Applicant's arguments filed 05/03/2006 have been fully considered but they are not persuasive.

Applicant argues that Clark does not teach or suggest positioning each deposition mask to the base plate independently of the other deposition masks. However, there is no suggestion in Clark that the mask segments 12a-12d are bonded together in any manner, such that the mask segments must be moved as a whole. Therefore, the mask segments can be independently aligned relative to the base plate since each segment is independent of one another.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Lin whose telephone number is 571-272-8902. The examiner can normally be reached on Monday thru Thursday 8 - 5:30 and Friday 8 - 4:30.

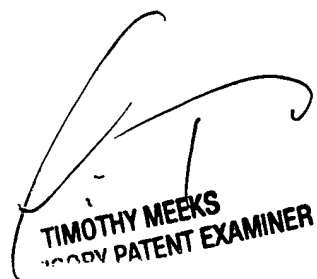
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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TIMOTHY MEEKS
PATENT EXAMINER